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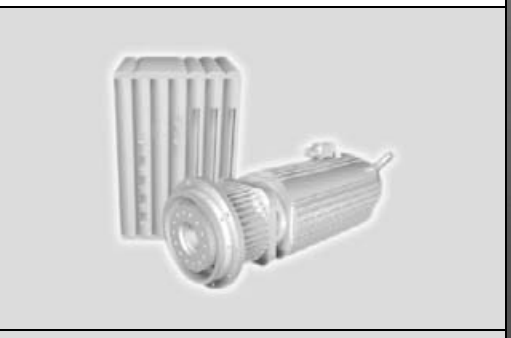

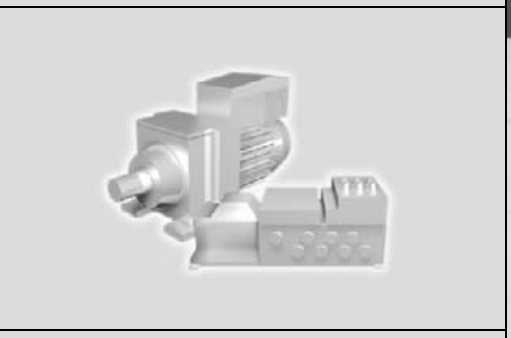

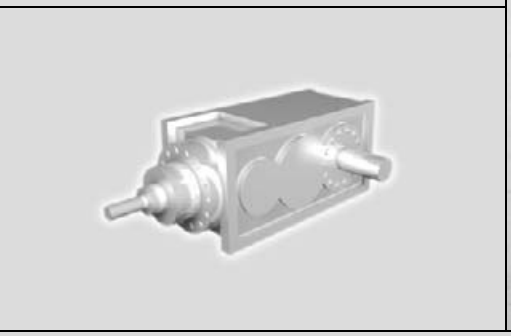

BMG..T Double Disc Brake for Stage Applications

GA253000

Edition 01/2006

11386614 / EN

Operating Instructions

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1 Important Notes

1.1 Safety and warning instructions

Always follow the safety and warning notes in this publication.

Electrical hazard
Possible consequences: Severe or fatal injuries.

Hazard
Possible consequences: Severe or fatal injuries.

Hazardous situation
Possible consequences: Slight or minor injuries.

Harmful situation
Possible consequences: Damage to the unit and the environment.

Tips and useful information.

This documentation contains safety requirements and additional information on the BMG..T double disc brake for use in stage applications.

As a prerequisite for fault-free operation and fulfillment of warranty claims, you must adhere to the information in the operating instructions. Therefore, read the operating instructions before you start working with the brake! The operating instructions contain important information about servicing and should be kept close to the unit. This document supplements the "AC Motors, Asynchronous Servomotors" operating instructions and limits the application notes according to the following information.

The guidelines in this documentation must be strictly observed for safety applications. This applies in particular to the requirements of the employer's liability insurance association and TÜV.

Disposal

This product consists of:

- Iron
- Copper
- Aluminum
- Plastic

Dispose of all components in accordance with applicable regulations.

2 Safety Notes

- The requirements for the emergency stop relay and the permitted circuit variants are specified in detail in the following sections and must be strictly observed.
- **The system/machine manufacturer must perform a system/machine-specific risk analysis. The use of the BMG..T double disc brake for stage applications must be taken into account in this analysis.**
- **The switching equipment of the external voltage supply for the brakes must comply at least with category 3 to EN 954-1 or with a comparable national standard.**

- **In normal operation, the manual release lever for the brake must not be attached. This prevents the brake from being released unintentionally. It is not permitted to convert the brake to enable lockable manual release.**

General information

- **Please also consider the supplementary safety notes in the individual sections of these operating instructions.**
- During and after operation, the brakes may have live and moving parts and their surfaces may be hot.
- **All work related to transportation, putting into storage, setting up/mounting, connection, startup, maintenance and repair may only be performed by trained personnel observing**
  - The relevant detailed operating instruction(s) and wiring diagrams
  - The specific regulations and requirements for the system
  - National/regional regulations governing safety and the prevention of accidents
- **Serious injuries and damage to property may result from:**
  - Improper use
  - Incorrect installation or operation
  - Removal of required protective covers or the housing when this is not permitted
- **If work is carried out on the electrical section of the system, the supply voltage must be disconnected.**

Designated use

- The BMG..T double disc brakes are certified as safe components of mobile flying equipment or rigging systems for stage applications to DIN 56950, EN 954-1, EN 13849-1 and BGV C1. Drives fitted with BMG..T brakes must fulfill the requirements in the above standards. The "Driving mechanisms" section in particular must be observed.
- Technical data and information on the permitted conditions can be found on the nameplate and in the documentation.
- BMG..T double disc brakes cannot be retrofitted.
- **It is essential to observe all the specified information!**

Transportation

- Inspect the shipment for any damage that may have occurred in transit as soon as you receive the delivery. Inform the shipping company immediately. It may be necessary to preclude startup.

3 Certificate

The following certification is available for the BMG..T double disc brake for stage applications:

- Product certificate of the Rheinisch-Westfälischer Technische Überwachungs-Verein e.V (RW TÜV)

The certification reports accompanying the respective certificates must be observed. The conditions are listed in this publication. The sections "Safety Notes" and "Installation/Startup" must be observed in particular.

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Figure 1: Product certificate

4 Structure of the BMG..T Stage Brake

4.1 Basic structure

The following sectional view is intended to explain the general structure. Its only purpose is to facilitate the assignment of components to the spare parts lists. Discrepancies may occur depending on the brake size and version!

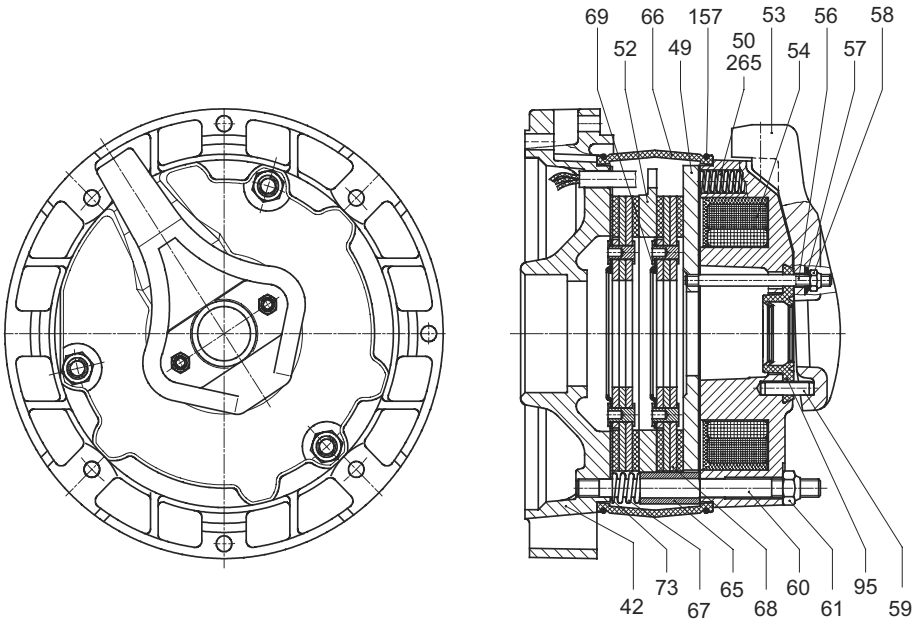

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Figure 2: Basic structure of the BMG..T brake

42	Brake end shield	61	Hexagonal nut
49	Pressure plate	65	Pressure ring
50	Brake spring	66	Rubber sealing collar
52	Brake stationary disc	67	Counter spring
53	Manual release	68	Complete brake disc
54	Complete brake coil body	69	Circular spring
56	Stud	73	Stainless steel shim plate
57	Conical coil spring	95	Sealing ring
58	Hexagonal nut	157	Clamping strap
59	Dowel pin	265	Brake spring, red
60	Stud		

4.2 Unit designation

The following motor/brake combinations are permitted for stage applications:

Brake type	For motor size	Rated braking torque [Nm]
BMG4T	DT90	32 (2 x 16)
		20 (2 x 10)
	DV100	40 (2 x 20)
		32 (2 x 16)
		20 (2 x 10)
BMG8T	DV112	60 (2 x 30)
		37 (2 x 18.5)
	DV132S	75 (2 x 37.5)
		60 (2 x 30)
		37 (2 x 18.5)
BMG15T	DV132M	100 (2 x 50)
	DV132ML DV160M	150 (2 x 75)
		100 (2 x 50)
BMG32T	DV160L	300 (2x150)
		200 (2 x 100)
	DV180	400 (2 x 200)
		300 (2 x 150)
		200 (2 x 100)
BMG62T	DV200 DV225	400 (2 x 200)
		300 (2 x 150)
		200 (2 x 100)

5 Installation/Startup

5.1 Mechanical installation

- **In normal operation, the manual release lever for the brake must not be attached. This prevents the brake from being released unintentionally.**
- **The drive may only be installed when**
  - The drive is undamaged (no damage caused by transportation or storage)
  - It is certain that the following requirements have been met:
    – Ambient temperature between -25 °C and +40 °C
    – No oil, acid, gas, vapors, radiation, etc.
    – Installation altitude max. 1000 m above sea level.

5.2 Electrical installation

- **As regards the safety of the switching equipment, it must comply at least with category 3 to EN 954-1 or with a comparable national standard.**
- **The utilization category of the contactors for the brake controller must be at least AC-3 in accordance with EN 60947-4-1 or a comparable national standard.**
- **The brake is released electrically. The brake is applied mechanically when the voltage is switched off.**
  – Connect the brake according to the wiring diagram supplied with the brake.
  – The supply voltage must lie within the rated voltage range of the brake coil (see Sec. "Technical Data").
- The brake can only be run with the SEW brake controller it is intended for (see Sec. "Technical Data").
- **Check the line cross sections – operating currents (see Sec. "Technical Data").**
  – Apply brake voltage according to the nameplate.
  – Connect the brake controller according to the wiring diagram supplied with the brake.
  – For motors in thermal class H, install the brake rectifier in the switch cabinet!
  – Use only copper cables with the following temperature ranges as connection cables: Temperature range: 60/75 °C
- **Comply with the applicable regulations issued by the relevant employer's liability insurance association regarding phase failure protection and the associated circuit/circuit modification!**

5.3 Startup

- For startup, in addition to the safety notes in these operating instructions, it is essential that you comply with the safety notes in the operating instructions for the motor as well as the legal and liability insurance conditions.

6 Inspection/Maintenance

- Use only genuine spare parts in accordance with the valid parts list!
- Always install a new brake controller at the same time as replacing the brake coil.
- Motors can become very hot during operation – danger of burns!
- Secure or lower the mobile flying equipment and rigging system (danger of falling)!
- Isolate the motor and brake from the power supply before starting work, safeguarding them against unintentional power-up!
- The notes in the AC motor and brake motor operating instructions under BM/BMG apply.

Auxilliary tools table

The following table lists the part numbers of the distance blocks needed to perform the dynamic check. Three distance blocks are required for the check.

Brake	Part no. of the distance block
BMG4T	594 865 7
BMG8T	594 866 5
BMG15-62T	594 864 9

The distance blocks are not included in the scope of delivery for the brake.

6.1 Inspection and maintenance periods

The necessary inspection/maintenance periods must be calculated by the system manufacturer according to the specific project planning documents for individual applications, in accordance with the directives of the employer's liability insurance association. According to the "BGV C1" regulation of the employer's liability insurance association, brakes for stage applications must be checked once a year.

The BMG..T brakes may only be disassembled by trained personnel.

During maintenance, the mobile flying equipment or rigging system must not be subject to load.

6.2 Checking the dual circuit braking function

The BMG..T brakes can be checked both statically and dynamically. A static check may not be suitable for some applications (due to the higher reference torque). The system operator determines the procedure that is to be used and how often a check is to be performed (see the inspection and maintenance periods).

The following table lists the reference torque ratings to be applied. **Regardless of the inspection and test procedure used, the test should only be carried out by qualified personnel!**

Brake type	Rated braking torque	Permitted load torque	Dynamic reference torque	Static reference torque
BMG4T	40 (2 x 20)	13	16	32
	32 (2 x 16)	10,5	13	26
	20 (2 x 10)	6,5	8	16
BMG8T	75 (2 x 37.5)	25	31	62
	60 (2 x 30)	20	25	50
	37 (2 x 18.5)	12	15	30
BMG15T	150 (2 x 75)	50	62	125
	100 (2 x 50)	35	44	88
BMG32T	400 (2 x 200)	70	87,5	175
	300 (2 x 150)	100	125	250
	200 (2 x 100)	135	169	338
BMG62T	400 (2 x 200)	70	87,5	175
	300 (2 x 150)	100	125	250
	200 (2 x 100)	135	169	338

Dynamic check in accordance with DIN 56950

The BMG..T brakes have a dual circuit braking function. If one brake circuit fails, the other is able to hold the load. The following section describes how to check the effectiveness of this backup brake system. The effectiveness is checked in accordance with the periods specified by the system operator (see the inspection and maintenance intervals). To check the effectiveness, one of the two brake discs is removed from the power flow by inserting distance blocks.

1. **Secure or lower the mobile flying equipment and rigging system (danger of falling)!**
2. Remove protective canopy and encoder.
3. Remove the rubber sealing collar.
4. Release the brake manually or electrically.
5. Remove one brake disc from the power flow by inserting three distance blocks above the studs (see Figure 3 to page 13). To do so, turn the adjusting screws [3] of the distance blocks [1] to the left until the brake discs [4] are inoperative.
6. Apply the brake.
7. Set the working air gap for the brake disc in the power flow to 0.25 mm (see the "Inspection / Maintenance" section in the AC motor operating instructions).
8. The brake system in the power flow; that is, the one that has not been bridged using distance blocks, must be able to cope with the dynamic reference torque ratings listed in the following table, i.e. 125 % of the permitted load torque.

Brake type	Rated braking torque	Permitted load torque	Dynamic reference torque
BMG4T	40 (2 x 20)	13	16
	32 (2 x 16)	10.5	13
	20 (2 x 10)	6.5	8
BMG8T	75 (2 x 37.5)	25	31
	60 (2 x 30)	20	25
	37 (2 x 18.5)	12	15
BMG15T	150 (2 x 75)	50	62
	100 (2 x 50)	35	44
BMG32T	400 (2 x 200)	135	169
	300 (2 x 150)	100	125
	200 (2 x 100)	70	87.5
BMG62T	400 (2 x 200)	135	169
	300 (2 x 150)	100	125
	200 (2 x 100)	70	87.5

9. **Remove distance blocks.**
10. Repeat points 4 to 9 for the second brake disc.
11. Reset the working air gap.
12. Install the rubber sealing collar.
13. Attach the encoder and protective canopy.

If one of the brake systems cannot cope with the specified dynamic torque, stop the test immediately. This means that the dual circuit brake function is not ensured. Stop the mobile flying equipment or rigging system, remove the brake and check it.

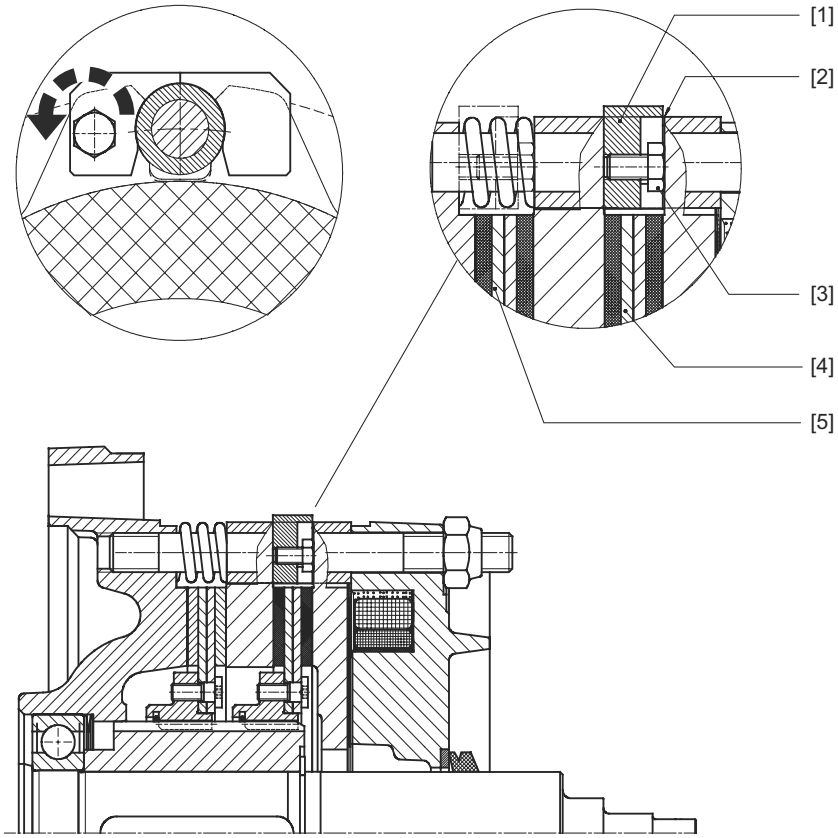

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Figure 3: Checking the dual circuit brake function with distance blocks

[1] Distance blocks (3x)
[2] Air gap
[3] Adjusting screw
[4] Brake disc not in the power flow
[5] Brake disc in the power flow

Static check

Brakes in the BMG..T series have a dual circuit braking function. The permitted load torque during operation is much lower than the rated braking torque.

Before performing the static check described here, you must ensure that the transmission components are strong enough to cope with the test ratings. The strength must be proved beforehand.

The static check is used to test the total braking torque of the individual brake discs; that is, the braking circuits are subjected to load at the same time. Choose the static reference torque according to the following table and apply the torque once you have secured or lowered the mobile flying equipment and rigging system.

Brake type	Rated braking torque	Permitted load torque	Static reference torque
BMG4T	40 (2 x 20)	13	32
	32 (2 x 16)	10.5	26
	20 (2 x 10)	6.5	16
BMG8T	75 (2 x 37.5)	25	62
	60 (2 x 30)	20	50
	37 (2 x 18.5)	12	30
BMG15T	150 (2 x 75)	50	125
	100 (2 x 50)	35	88
BMG32T	400 (2 x 200)	70	175
	300 (2 x 150)	100	250
	200 (2 x 100)	135	338
BMG62T	400 (2 x 200)	70	175
	300 (2 x 150)	100	250
	200 (2 x 100)	135	338

To check the backup and safety factors in a single test, 250 % of the permitted load torque is applied as a static reference torque.

If the system cannot cope with the specified static torque during the test, stop the test immediately. This means that the dual circuit brake function is not ensured. Stop the mobile flying equipment or rigging system, remove the brake and check it.

As an alternative static check, use a torque wrench on the B-side.

6.3 Customer service

Please have the following information to hand if you require the assistance of our customer service:

- Data from the nameplate (complete)
- Type and extent of the problem
- Time the problem occurred and any accompanying circumstances
- Assumed cause

7 Technical Data

7.1 BMG..T braking torque

Brake type	For motor size	Working air gap		Braking torque settings				
		nom./ min.	nom./ max.	Rated braking torque	Type and number of brake springs		Order numbers for brake springs	
		[mm]	[mm]	[Nm]	Stan-dard	Red	Standard	Red
BMG4T	DT90	0.2	0.6	32 (2 x 16)	2	2	135 150 8	135 151 6
				20 (2 x 10)		6		
	DV100			40 (2 x 20)	3			
				32 (2 x 16)	2	2		
				20 (2 x 10)		6		
BMG8T	DV112			60 (2 x 30)	2	2	184 845 3	135 570 8
				37 (2 x 18.5)		6		
	DV132S			75 (2 x 37.5)	3			
				60 (2 x 30)	2	2		
				37 (2 x 18.5)		6		
BMG15T	DV132M			100 (2 x 50)		6	184 486 5	184 487 3
	DV132ML DV160M			150 (2 x 75)	3			
				100 (2 x 50)		6		
BMG32T	DV160L			300 (2 x 150)	4		187 455 1	187 457 8
				200 (2 x 100)		8		
	DV180			400 (2 x 100)	4	4		
				300 (2 x 150)	4			
				200 (2 x 100)		8		
BMG62T	DV200 DV225			400 (2 x 100)	4	4	187 455 1	187 457 8
				300 (2 x 150)	4			
				200 (2 x 100)		8		

After the motor test run, deviations of ± 0.05 mm can occur in the working air gap caused by parallelism tolerances in the brake disc.

7.2 Brake controllers

SEW-EURODRIVE stipulates the following brake controllers as standard in combination with brakes from the BMG..T series for installation in terminal boxes:

	BMG4T	BMG8T	BMG15T	BMG 32T/ BMG62T
AC supply	BG/BGE	BGE	BGE	BGE
24 V_{DC} supply	BS/BSG	BSG	BSG	BSG

If you want to install the brake controller in a switch cabinet, SEW-EURODRIVE stipulates the following brake controllers in combination with brakes in the BMG..T series:

	BMG4T	BMG8T	BMG15T	BMG32T/ BMG62T
AC supply	BMS/BME/BMP	BME/BMP	BME/BMP	BME/BMP
24 V_{DC} supply	BS/BSG	BSG	BSG	BSG

If you want to install a different brake controller, please contact SEW-EURODRIVE to discuss the possibilities.

7.3 BMG..T operating currents

The following table lists the operating currents of BMG..T:

	BMG4T	BMG8T	BMG15T	BMG32T	BMG62T
Max. rated braking torque [Nm]	40	75	150	400	400
Braking power [W]	35	40	60	78	78
Inrush current ratio I_B/I_H	-	6.3	7.5	8.5	8.5

Rated voltage U_N	**BMG4T** I_H [A_{AC}]	**BMG8T** I_H [A_{AC}]	**BMG15T** I_H [A_{AC}]	**BMG32T** I_H [A_{AC}]	**BMG62T** I_H [A_{AC}]
24 DC	1.30[1)]	1.75[2)]	2.65[2)]	-	-
230 AC (208-233)	0.25	0.28	0.42	0.53	0.53
240 AC (234-261)	0.22	0.25	0.38	0.48	0.48
290 AC (262-293)	0.20	0.22	0.34	0.42	0.42
400 AC (370-414)	0.14	0.16	0.24	0.30	0.30
440 AC (415-464)	0.12	0.14	0.21	0.27	0.27

1) Direct current for DC supply

2) Direct current for operation with BSG

I_B Accelerator current – brief inrush current
I_H Holding current r.m.s. value in the connecting lead to the SEW brake rectifier
U_N Rated voltage (rated voltage range)

Permitted tolerances for rated voltage: Rated voltage range ± 10 %
Example: Rated voltage 230 V_{AC}
Lower limit 208 V_{AC} -10 %
Upper limit 233 V_{AC} +10 %

Address List

Germany			
Headquarters **Production** **Sales**	**Bruchsal**	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 D-76646 Bruchsal P.O. Box Postfach 3023 · D-76642 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 http://www.sew-eurodrive.de sew@sew-eurodrive.de
Service **Competence Center**	**Central** Gear units / Motors	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf	Tel. +49 7251 75-1710 Fax +49 7251 75-1711 sc-mitte-gm@sew-eurodrive.de
	Central Electronics	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 D-76646 Bruchsal	Tel. +49 7251 75-1780 Fax +49 7251 75-1769 sc-mitte-e@sew-eurodrive.de
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	East	SEW-EURODRIVE GmbH & Co KG Dänkritzer Weg 1 D-08393 Meerane (near Zwickau)	Tel. +49 3764 7606-0 Fax +49 3764 7606-30 sc-ost@sew-eurodrive.de
	South	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 D-85551 Kirchheim (near München)	Tel. +49 89 909552-10 Fax +49 89 909552-50 sc-sued@sew-eurodrive.de
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France			
Production **Sales** **Service**	**Haguenau**	SEW-USOCOME 48-54, route de Soufflenheim B. P. 20185 F-67506 Haguenau Cedex	Tel. +33 3 88 73 67 00 Fax +33 3 88 73 66 00 http://www.usocome.com sew@usocome.com
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	Lyon	SEW-USOCOME Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. +33 4 72 15 37 00 Fax +33 4 72 15 37 15
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Algeria			
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Argentina			
Assembly **Sales** **Service**	**Buenos Aires**	SEW EURODRIVE ARGENTINA S.A. Centro Industrial Garin, Lote 35 Ruta Panamericana Km 37,5 1619 Garin	Tel. +54 3327 4572-84 Fax +54 3327 4572-21 sewar@sew-eurodrive.com.ar

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	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. +61 2 9725-9900 Fax +61 2 9725-9905 enquires@sew-eurodrive.com.au

Austria			
Assembly **Sales** **Service**	**Wien**	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Strasse 24 A-1230 Wien	Tel. +43 1 617 55 00-0 Fax +43 1 617 55 00-30 http://sew-eurodrive.at sew@sew-eurodrive.at

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Assembly **Sales** **Service**	**Brüssel**	SEW Caron-Vector S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.caron-vector.be info@caron-vector.be

Brazil			
Production **Sales** **Service**	**Sao Paulo**	SEW-EURODRIVE Brasil Ltda. Avenida Amâncio Gaiolli, 50 Caixa Postal: 201-07111-970 Guarulhos/SP - Cep.: 07251-250	Tel. +55 11 6489-9133 Fax +55 11 6480-3328 http://www.sew.com.br sew@sew.com.br
	Additional addresses for service in Brazil provided on request!		

Bulgaria			
Sales	**Sofia**	BEVER-DRIVE GmbH Bogdanovetz Str.1 BG-1606 Sofia	Tel. +359 2 9532565 Fax +359 2 9549345 bever@fastbg.net

Cameroon			
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Canada			
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	Vancouver	SEW-EURODRIVE CO. OF CANADA LTD. 7188 Honeyman Street Delta. B.C. V4G 1 E2	Tel. +1 604 946-5535 Fax +1 604 946-2513 b.wake@sew-eurodrive.ca
	Montreal	SEW-EURODRIVE CO. OF CANADA LTD. 2555 Rue Leger Street LaSalle, Quebec H8N 2V9	Tel. +1 514 367-1124 Fax +1 514 367-3677 a.peluso@sew-eurodrive.ca
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Assembly **Sales** **Service**	**Santiago de Chile**	SEW-EURODRIVE CHILE LTDA. Las Encinas 1295 Parque Industrial Valle Grande LAMPA RCH-Santiago de Chile P.O. Box Casilla 23 Correo Quilicura - Santiago - Chile	Tel. +56 2 75770-00 Fax +56 2 75770-01 ventas@sew-eurodrive.cl

China			
Production **Assembly** **Sales** **Service**	**Tianjin**	SEW-EURODRIVE (Tianjin) Co., Ltd. No. 46, 7th Avenue, TEDA Tianjin 300457	Tel. +86 22 25322612 Fax +86 22 25322611 gm-tianjin@sew-eurodrive.cn http://www.sew.com.cn

China			
Assembly **Sales** **Service**	**Suzhou**	SEW-EURODRIVE (Suzhou) Co., Ltd. 333, Suhong Middle Road Suzhou Industrial Park Jiangsu Province, 215021 P. R. China	Tel. +86 512 62581781 Fax +86 512 62581783 suzhou@sew.com.cn
	Additional addresses for service in China provided on request!		

Colombia			
Assembly **Sales** **Service**	**Bogotá**	SEW-EURODRIVE COLOMBIA LTDA. Calle 22 No. 132-60 Bodega 6, Manzana B Santafé de Bogotá	Tel. +57 1 54750-50 Fax +57 1 54750-44 sewcol@sew-eurodrive.com.co

Croatia			
Sales **Service**	**Zagreb**	KOMPEKS d. o. o. PIT Erdödy 4 II HR 10 000 Zagreb	Tel. +385 1 4613-158 Fax +385 1 4613-158 kompeks@net.hr

Czech Republic			
Sales	**Praha**	SEW-EURODRIVE CZ S.R.O. Business Centrum Praha Luná 591 CZ-16000 Praha 6 - Vokovice	Tel. +420 a220121236 Fax +420 220121237 http://www.sew-eurodrive.cz sew@sew-eurodrive.cz

Denmark			
Assembly **Sales** **Service**	**Kopenhagen**	SEW-EURODRIVEA/S Geminivej 28-30, P.O. Box 100 DK-2670 Greve	Tel. +45 43 9585-00 Fax +45 43 9585-09 http://www.sew-eurodrive.dk sew@sew-eurodrive.dk

Estonia			
Sales	**Tallin**	ALAS-KUUL AS Paldiski mnt.125 EE 0006 Tallin	Tel. +372 6593230 Fax +372 6593231 veiko.soots@alas-kuul.ee

Finland			
Assembly **Sales** **Service**	**Lahti**	SEW-EURODRIVE OY Vesimäentie 4 FIN-15860 Hollola 2	Tel. +358 201 589-300 Fax +358 3 780-6211 http://www.sew-eurodrive.fi sew@sew.fi

Gabon			
Sales	**Libreville**	Electro-Services B.P. 1889 Libreville	Tel. +241 7340-11 Fax +241 7340-12

Great Britain			
Assembly **Sales** **Service**	**Normanton**	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate P.O. Box No.1 GB-Normanton, West- Yorkshire WF6 1QR	Tel. +44 1924 893-855 Fax +44 1924 893-702 http://www.sew-eurodrive.co.uk info@sew-eurodrive.co.uk

Greece			
Sales **Service**	**Athen**	Christ. Boznos & Son S.A. 12, Mavromichali Street P.O. Box 80136, GR-18545 Piraeus	Tel. +30 2 1042 251-34 Fax +30 2 1042 251-59 http://www.boznos.gr info@boznos.gr

Hong Kong			
Assembly **Sales** **Service**	**Hong Kong**	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. +852 2 7960477 + 79604654 Fax +852 2 7959129 sew@sewhk.com

Hungary			
Sales **Service**	**Budapest**	SEW-EURODRIVE Kft. H-1037 Budapest Kunigunda u. 18	Tel. +36 1 437 06-58 Fax +36 1 437 06-50 office@sew-eurodrive.hu

India			
Assembly **Sales** **Service**	**Baroda**	SEW-EURODRIVE India Pvt. Ltd. Plot No. 4, Gidc Por Ramangamdi · Baroda - 391 243 Gujarat	Tel. +91 265 2831086 Fax +91 265 2831087 mdoffice@seweurodriveindia.com
Technical Offices	**Bangalore**	SEW-EURODRIVE India Private Limited 308, Prestige Centre Point 7, Edward Road Bangalore	Tel. +91 80 22266565 Fax +91 80 22266569 salesbang@seweurodriveinindia.com

Ireland			
Sales **Service**	**Dublin**	Alperton Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. +353 1 830-6277 Fax +353 1 830-6458

Israel			
Sales	**Tel-Aviv**	Liraz Handasa Ltd. Ahofer Str 34B / 228 58858 Holon	Tel. +972 3 5599511 Fax +972 3 5599512 lirazhandasa@barak-online.net

Italy			
Assembly **Sales** **Service**	**Milano**	SEW-EURODRIVE di R. Blickle & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. +39 02 96 9801 Fax +39 02 96 799781 sewit@sew-eurodrive.it

Ivory Coast			
Sales	**Abidjan**	SICA Ste industrielle et commerciale pour l'Afrique 165, Bld de Marseille B.P. 2323, Abidjan 08	Tel. +225 2579-44 Fax +225 2584-36

Japan			
Assembly **Sales** **Service**	**Toyoda-cho**	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Iwata Shizuoka 438-0818	Tel. +81 538 373811 Fax +81 538 373814 sewjapan@sew-eurodrive.co.jp

Korea			
Assembly **Sales** **Service**	**Ansan-City**	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate Unit 1048-4, Shingil-Dong Ansan 425-120	Tel. +82 31 492-8051 Fax +82 31 492-8056 master@sew-korea.co.kr

Latvia			
Sales	**Riga**	SIA Alas-Kuul Katlakalna 11C LV-1073 Riga	Tel. +371 7139386 Fax +371 7139386 info@alas-kuul.ee

Lebanon			
Sales	**Beirut**	Gabriel Acar & Fils sarl B. P. 80484 Bourj Hammoud, Beirut	Tel. +961 1 4947-86 +961 1 4982-72 +961 3 2745-39 Fax +961 1 4949-71 gacar@beirut.com

Lithuania			
Sales	**Alytus**	UAB Irseva Naujoji 19 LT-62175 Alytus	Tel. +370 315 79204 Fax +370 315 56175 info@irseva.lt http://www.sew-eurodrive.lt

Luxembourg			
Assembly **Sales** **Service**	**Brüssel**	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. +32 10 231-311 Fax +32 10 231-336 http://www.caron-vector.be info@caron-vector.be

Malaysia			
Assembly **Sales** **Service**	**Johore**	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. +60 7 3549409 Fax +60 7 3541404 sales@sew-eurodrive.com.my

Mexico			
Assembly **Sales** **Service**	**Queretaro**	SEW-EURODRIVE, Sales and Distribution, S. A. de C. V. Privada Tequisquiapan No. 102 Parque Ind. Queretaro C. P. 76220 Queretaro, Mexico	Tel. +52 442 1030-300 Fax +52 442 1030-301 scmexico@seweurodrive.com.mx

Morocco			
Sales	**Casablanca**	S. R. M. Société de Réalisations Mécaniques 5, rue Emir Abdelkader 05 Casablanca	Tel. +212 2 6186-69 + 6186-70 + 6186-71 Fax +212 2 6215-88 srm@marocnet.net.ma

Netherlands			
Assembly **Sales** **Service**	**Rotterdam**	VECTOR Aandrijftechniek B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 4463-700 Fax +31 10 4155-552 http://www.vector.nu info@vector.nu

New Zealand			
Assembly **Sales** **Service**	**Auckland**	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. +64 9 2745627 Fax +64 9 2740165 sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 10 Settlers Crescent, Ferrymead Christchurch	Tel. +64 3 384-6251 Fax +64 3 384-6455 sales@sew-eurodrive.co.nz

Norway			
Assembly **Sales** **Service**	**Moss**	SEW-EURODRIVE A/S Solgaard skog 71 N-1599 Moss	Tel. +47 69 241-020 Fax +47 69 241-040 sew@sew-eurodrive.no

Peru			
Assembly **Sales** **Service**	**Lima**	SEW DEL PERU MOTORES REDUCTORES S.A.C. Los Calderos, 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. +51 1 3495280 Fax +51 1 3493002 sewperu@sew-eurodrive.com.pe

Poland			
Assembly **Sales** **Service**	**Lodz**	SEW-EURODRIVE Polska Sp.z.o.o. ul. Techniczna 5 PL-92-518 Lodz	Tel. +48 42 67710-90 Fax +48 42 67710-99 http://www.sew-eurodrive.pl sew@sew-eurodrive.pl

Portugal			
Assembly **Sales** **Service**	**Coimbra**	SEW-EURODRIVE, LDA. Apartado 15 P-3050-901 Mealhada	Tel. +351 231 20 9670 Fax +351 231 20 3685 http://www.sew-eurodrive.pt infosew@sew-eurodrive.pt

Romania			
Sales **Service**	**Bucuresti**	Sialco Trading SRL str. Madrid nr.4 011785 Bucuresti	Tel. +40 21 230-1328 Fax +40 21 230-7170 sialco@sialco.ro

Russia			
Assembly **Sales** **Service**	**St. Petersburg**	ZAO SEW-EURODRIVE P.O. Box 36 195220 St. Petersburg Russia	Tel. +7 812 3332522 +7 812 5357142 Fax +7 812 3332523 http://www.sew-eurodrive.ru sew@sew-eurodrive.ru

Senegal			
Sales	**Dakar**	SENEMECA Mécanique Générale Km 8, Route de Rufisque B.P. 3251, Dakar	Tel. +221 849 47-70 Fax +221 849 47-71 senemeca@sentoo.sn

Serbia and Montenegro			
Sales	**Beograd**	DIPAR d.o.o. Kajmakcalanska 54 SCG-11000 Beograd	Tel. +381 11 3088677 / +381 11 3088678 Fax +381 11 3809380 dipar@yubc.net

Singapore			
Assembly **Sales** **Service**	**Singapore**	SEW-EURODRIVE PTE. LTD. No 9, Tuas Drive 2 Jurong Industrial Estate Singapore 638644	Tel. +65 68621701 Fax +65 68612827 sewsingapore@sew-eurodrive.com

Slovakia			
Sales	**Sered**	SEW-Eurodrive SK s.r.o. Trnavska 920 SK-926 01 Sered	Tel. +421 31 7891311 Fax +421 31 7891312 sew@sew-eurodrive.sk

Slovenia			
Sales **Service**	**Celje**	Pakman - Pogonska Tehnika d.o.o. UI. XIV. divizije 14 SLO – 3000 Celje	Tel. +386 3 490 83-20 Fax +386 3 490 83-21 pakman@siol.net

South Africa			
Assembly **Sales** **Service**	**Johannesburg**	SEW-EURODRIVE (PROPRIETARY) LIMITED Eurodrive House Cnr. Adcock Ingram and Aerodrome Roads Aeroton Ext. 2 Johannesburg 2013 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 494-3104 dross@sew.co.za
	Capetown	SEW-EURODRIVE (PROPRIETARY) LIMITED Rainbow Park Cnr. Racecourse & Omuramba Road Montague Gardens Cape Town P.O.Box 36556 Chempet 7442 Cape Town	Tel. +27 21 552-9820 Fax +27 21 552-9830 Telex 576 062 dswanepoel@sew.co.za
	Durban	SEW-EURODRIVE (PROPRIETARY) LIMITED 2 Monaceo Place Pinetown Durban P.O. Box 10433, Ashwood 3605	Tel. +27 31 700-3451 Fax +27 31 700-3847 dtait@sew.co.za

Spain			
Assembly **Sales** **Service**	**Bilbao**	SEW-EURODRIVE ESPAÑA, S.L. Parque Tecnológico, Edificio, 302 E-48170 Zamudio (Vizcaya)	Tel. +34 9 4431 84-70 Fax +34 9 4431 84-71 sew.spain@sew-eurodrive.es

Sweden			
Assembly **Sales** **Service**	**Jönköping**	SEW-EURODRIVE AB Gnejsvägen 6-8 S-55303 Jönköping Box 3100 S-55003 Jönköping	Tel. +46 36 3442-00 Fax +46 36 3442-80 http://www.sew-eurodrive.se info@sew-eurodrive.se

Switzerland			
Assembly **Sales** **Service**	**Basel**	Alfred Imhof A.G. Jurastrasse 10 CH-4142 Münchenstein bei Basel	Tel. +41 61 417 1717 Fax +41 61 417 1700 http://www.imhof-sew.ch info@imhof-sew.ch

Thailand			
Assembly **Sales** **Service**	**Chon Buri**	SEW-EURODRIVE (Thailand) Ltd. Bangpakong Industrial Park 2 700/456, Moo.7, Tambol Donhuaroh Muang District Chon Buri 20000	Tel. +66 38 454281 Fax +66 38 454288 sewthailand@sew-eurodrive.co.th

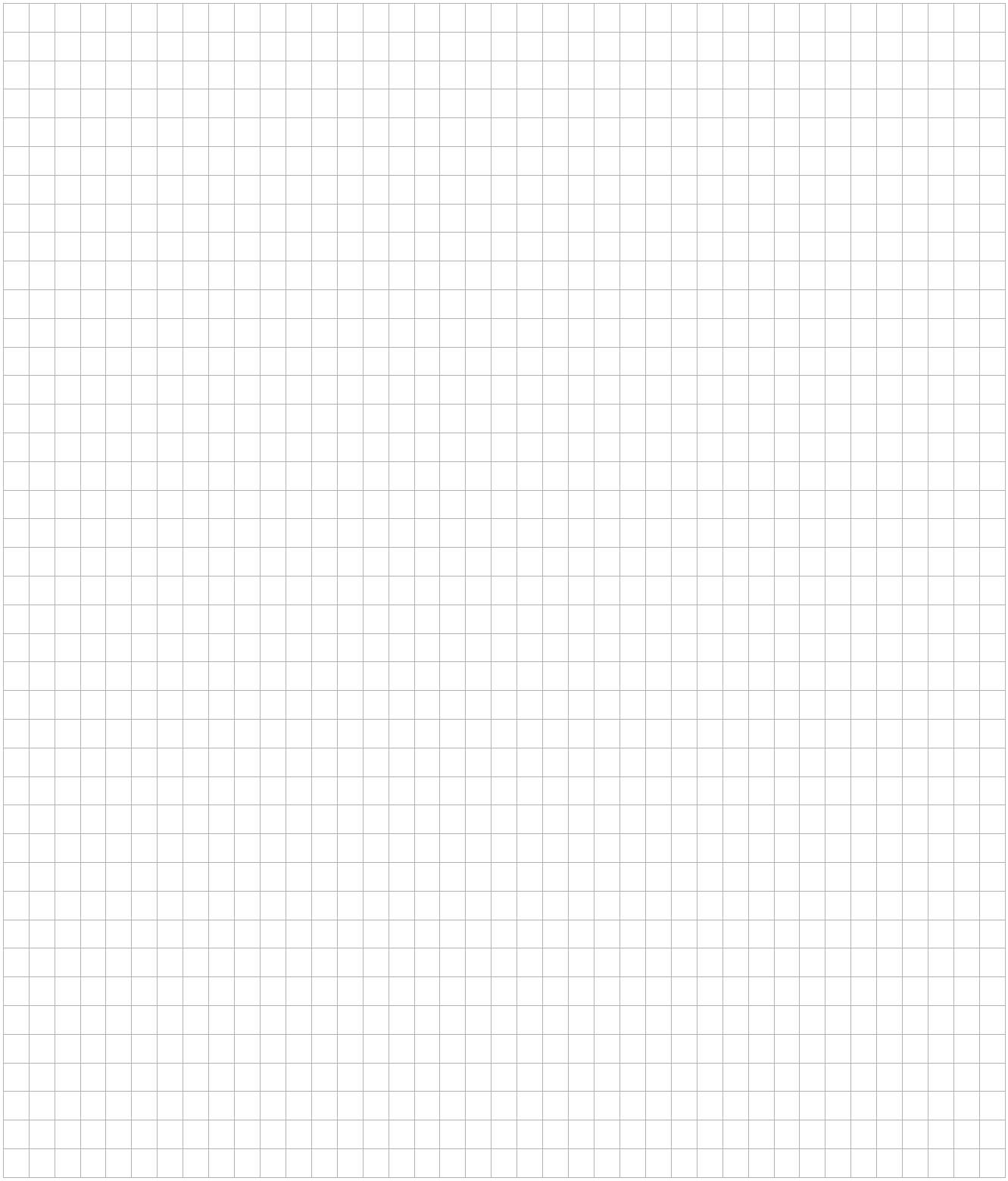
Tunisia			
Sales	**Tunis**	T. M.S. Technic Marketing Service 7, rue Ibn EI Heithem Z.I. SMMT 2014 Mégrine Erriadh	Tel. +216 1 4340-64 + 1 4320-29 Fax +216 1 4329-76

Turkey			
Assembly **Sales** **Service**	**Istanbul**	SEW-EURODRIVE Hareket Sistemleri Sirketi Bagdat Cad. Koruma Cikmazi No. 3 TR-34846 Maltepe ISTANBUL	Tel. +90 216 4419163 + 216 4419164 + 216 3838014 Fax +90 216 3055867 sew@sew-eurodrive.com.tr

Ukraine			
Sales **Service**	**Dnepropetrovsk**	SEW-EURODRIVE Str. Rabochaja 23-B, Office 409 49008 Dnepropetrovsk	Tel. +380 56 370 3211 Fax +380 56 372 2078 sew@sew-eurodrive.ua

USA			
Production **Assembly** **Sales** **Service**	**Greenville**	SEW-EURODRIVE INC. 1295 Old Spartanburg Highway P.O. Box 518 Lyman, S.C. 29365	Tel. +1 864 439-7537 Fax Sales +1 864 439-7830 Fax Manuf. +1 864 439-9948 Fax Ass. +1 864 439-0566 Telex 805 550 http://www.seweurodrive.com cslyman@seweurodrive.com
Assembly **Sales** **Service**	**San Francisco**	SEW-EURODRIVE INC. 30599 San Antonio St. Hayward, California 94544-7101	Tel. +1 510 487-3560 Fax +1 510 487-6381 cshayward@seweurodrive.com
	Philadelphia/PA	SEW-EURODRIVE INC. Pureland Ind. Complex 2107 High Hill Road, P.O. Box 481 Bridgeport, New Jersey 08014	Tel. +1 856 467-2277 Fax +1 856 845-3179 csbridgeport@seweurodrive.com
	Dayton	SEW-EURODRIVE INC. 2001 West Main Street Troy, Ohio 45373	Tel. +1 937 335-0036 Fax +1 937 440-3799 cstroy@seweurodrive.com
	Dallas	SEW-EURODRIVE INC. 3950 Platinum Way Dallas, Texas 75237	Tel. +1 214 330-4824 Fax +1 214 330-4724 csdallas@seweurodrive.com
	Additional addresses for service in the USA provided on request!		

Venezuela			
Assembly **Sales** **Service**	**Valencia**	SEW-EURODRIVE Venezuela S.A. Av. Norte Sur No. 3, Galpon 84-319 Zona Industrial Municipal Norte Valencia, Estado Carabobo	Tel. +58 241 832-9804 Fax +58 241 838-6275 sewventas@cantv.net sewfinanzas@cantv.net



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